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EXAMINER

CHENEY, C

ART UNIT

PAPER NUMBER

2747

DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

AW

Office Action Summary

Application No.

08/936,559

Applicant(s)

Gu

Examiner

Clark S. Cheney

Group Art Unit

2747



☒ Responsive to communication(s) filed on May 22, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 2, 4-9, and 11-28 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 2, 4-9, and 11-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 2, 4-6, 8-9, 13-17, 20-21, and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Bobry, U.S. Patent No. 5,593,236.

As per claim 2:

Bobry discloses a hand-held electronic printing apparatus. Abstract. Bobry claims the device also includes "the capability to serve as an audio recording and playback device. The recording time available will be limited only by the amount of memory available." Column 14, lines 20-23. A single transducer 170 may serve as both speaker and microphone for audio pick-up and playback. Column 14, lines 28-29. Bobry teaches that the sound processing system may comprise an integrated circuit in which "separate devices are not needed." Column 14, lines 42-48. As illustrated in Fig. 14A, the sound processing system includes an output circuit comprising elements 176 and 178, connected to a first terminal to drive speaker 170. This first terminal is shown schematically after the junction between the output of element 178 and the input of the

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element 172. An input circuit is also disclosed, comprising elements 172 and 174. This input circuit is also coupled to the first terminal to process an input signal from speaker 170. Column 14, lines 17-64.

The connection of the input and output circuits to the speaker is multiplexed between two modes: record (column 14, line 30) and playback (column 14, line 35). Bobry's device inherently includes multiplexing circuitry to provide the stated functionality. It is further inherent that this circuit must be placed between the first terminal and the output and input circuits described above.

As per claim 4:

Bobry teaches that "with appropriate voice recognition software, the apparatus 10 can be made responsive to voice commands." Column 14, lines 57-58. These commands activate functions of the unit. Column 14, lines 57-64. This software is equivalent to activation circuitry. Inherently, voice recognition includes the response of an input signal exceeding predefined threshold levels.

Bobry gives examples of output operations including playback (column 14, line 35) and retrieving words from memory (column 14, lines 60-61) to be printed.

As per claims 5 and 8:

The microprocessor 42 (access circuitry) is capable reading stored digital messages from memory 46 in Fig. 14. Column 14, lines 36-37. The digital signal is then applied to the D/A converter 176. The output of the D/A converter 176 is an analog signal which is then amplified

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by an amplifier 178 to an appropriate level and applied to the transducer 170, which now functions as a speaker. Column 14, lines 35-41.

As per claims 6 and 9:

When transducer 170 functions as a microphone, its signal may be boosted to an appropriate level by the amplifier 172, the output of which is applied to the A/D converter 174. The A/D converter 174 converts the analog signal into digital form which can be stored in memory 46 by the microprocessor 42. Column 14, lines 30-35.

As per claims 13-17, 20-21, and 25-28:

The limitations of these claims are anticipated by Bobry as shown above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobry in view of Dallas Semiconductor Battery Identification Chip DS2434 Data Sheet, rev. 07/31/97.

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As per claims 11 and 23:

Bobry teaches the sound processing system detailed above embodied as a single integrated circuit. To the extent that this single integrated circuit does not inherently include memory 46, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to do so. Microprocessors with on-board memory are notoriously well-known in the art. However, Bobry does not teach that the relevant circuitry is packaged in a three-pin package.

Dallas discloses a three-pin integrated circuit that can be coded with a battery identification and that can actively store information about performance in a 256-bit user memory. The three connectors include power, ground, and a 1-Wire interface. Features, Description, page 1. The 1-Wire interface is a data input/output pin. Pin Description, page 1. The commands supported by "Control Logic and Memory Function Control" in Fig. 1 (page 2) are listed in Table 1 on page 10. Dallas suggests using this device in applications including portable computers, portable/cellular telephones, consumer electronics, and hand held instrumentation. Features, page 1.

Because Bobry teaches integrating the sound processing system detailed above embodied as a single integrated circuit, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form Bobry's circuit similarly to the three-pin arrangement disclosed by Dallas. From the disclosure and illustration of Bobry, only three pins are readily required. Any greater number of pins would be space-consuming on a hand held device in which

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space is critical. Using a single pin for multiplexed data input and output to an integrated memory as suggested by Dallas lends itself ideal for the application of Bobry.

As per claim 12:

Dallas teaches a three-pin PR-35 package. The profile of this package only differs from a TO-92 package in obvious ways. The difference in shape between the two packages produces no unexpected result in connection with this invention.

5. Claims 7, 18, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobry in view of Armstrong.

Bobry discloses the invention noted above in the rejections of claims 3, 13, and 20.

Armstrong discloses an intercom system including a door unit comprised of a single microphone-speaker and a master unit including respective amplifiers for operating the door unit as a microphone and speaker, respectively. Respective electronic switches are operated by a control voltage and an inverted control voltage, respectively, for connecting the corresponding amplifiers to the door unit. In order to prevent noise during switching operations, a capacitance circuit is coupled between inputs of the corresponding switches to delay turning on of a switch during a discharge of the capacitance after the opposite switch has been turned off. Column 2, lines 13-26.

The delay circuit formed by the capacitance 361, resistances 362 and 364 and the diodes 363 and 367 is particularly advantageous in preventing the door speaker line 52 from being simultaneously connected to the output amplifier 354 and the input of amplifier 370. This

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prevents activation of the circuit during the time-out period and prevents substantial feedback through the system which could cause loud unwanted signals on the station speakers. Column 16, lines 13-27.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the delay circuit of Armstrong in the bilateral transducer of Bobry because such a delay circuit would enhance the quality of the signal as the transducer switches between the two functions taught by Bobry.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bobry in view of Willy.

Bobry discloses the invention noted above in the rejection of claim 20.

Willy discloses an improved "electromagnetic transducer that can function as either a speaker, a microphone, or a control device." Column 3, lines 3-6. In its application of a control device, tabs 124 (Figs. 19 and 20) provide bearing surfaces for armatures 116 and 118.

Movement of these armatures, by touching, for example, produces electrical control responses from the speaker. Column 9, line 44 through column 10, line 14.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the transducer taught by Willy in the audio device of Bobry because using this transducer would allow a greater degree of flexibility in controlling the device without increasing the number of input/output ports required.

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Response to Amendment

7. The objection to 18 is withdrawn in response to Applicant's amendment.
8. The rejection of claims 6 and 9 under 35 U.S.C. 112, second paragraph, is withdrawn in response to Applicant's amendment.

Response to Arguments

9. Applicant's arguments filed May 22, 2000 have been fully considered but they are not persuasive.

As per claim 2:

Applicant notes that Bobry does not disclose multiplexing circuitry. However, the Examiner responds that such circuitry is inherent to achieve the described functionality of the Bobry invention. Applicant contends that there is no indication in Bobry "that a single terminal, connected to both amplifiers 172 and 178, comes off the chip as a single pin, rather than the two standard pins." However, Bobry's diagram and disclosure teaches away from Applicant's two-pinned supposition. Bobry shows in Fig. 14A and Fig. 14B only a single connecting line to the speaker 170. Bobry never suggests a two-pinned connection but specifically illustrates a single connection. Bobry further suggests the advantage of using the same transducer as both a speaker and amplifier. Implicit in this teaching is the advantage of using one part for two functions, whether that part be a connection pin or the speaker. To interpret Bobry as containing more pins

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would not only be an ineffecient interpretation, but also an interpretation contrary to the remainder of the disclosure.

As per claims 4, 13-19, and 20-24:

Applicant notes that in one example of the Bobry patent, the output in response to an input from the speaker is a printed output, not an audio output through the same speaker. The Examiner responds that this is simply an example of Bobry's teachings and does not represent the limits of Bobry's invention. Bobry teaches that the device can be responsive to voice commands. Clearly, a command from the user is required to change from record mode to play-back mode. Bobry teaches that such a command may be a voice command. Therefore, by issuing a voice command, received through the speaker, the same speaker can respond by playing back audio output.

As per claim 5-6, 8-9, and 17:

Bobry clearly teaches the desirability of including multiple functions into a single integrated circuit (col. 14, lines 41-48).

As per claims 11 and 23:

The Examiner has noted that incorporation of memory into the integrated circuit of a microprocessor is notoriously well-known in the art, rendering this claim obvious in view of the prior art. The Examiner further notes that Bobry provides no explanation as to why the box 46 is shadowed. However, Bobry's explicit teachings include the advantage of reducing part count by combining multiple functions into a single integrated circuit.

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As per claims 7, 18, and 24:

The delay circuit taught by Armstrong is the very kind of circuitry necessary to provide the multiplexing functionality clearly taught by Bobry.

As per claim 22:

The rejection of claim 22 is undisputed.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication should be directed to Clark S. Cheney, Patent Examiner, whose telephone number is (703) 306-5836. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 4:00 p.m., E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen, can be reached at (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-5403.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



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